SPECIFICATIONS FOR

USEPA– ERT

ON TWO

HAZARDOUS MATERIALS EQUIPMENT UNITS

9/09/02 Edition

SECTION 1

INFORMATION FOR CONTRACTORS

THIS IS NOT A PRE-SOLICITATION NOTICE. ANY GOVERNMENT REQUIREMENT FOR THESE ITEMS WILL BE ANNOUNCED AT A LATER DATE. NO OFFERS ARE REQUESTED OR WILL BE ACCEPTED AT THIS TIME. INFORMATION SUBMITTED BY A CONTRACTOR WILL NOT BE ACCEPTED BY THE GOVERNMENT TO FORM A BINDING CONTRACT.

1. Sealed bids are requested by the USEPA from reputable companies who construct Fire Department hazardous materials response trucks. The contractor must have a facility that will house the apparatus in an enclosed building during the construction.

2. Each bid shall be in strict compliance with our specifications and shall be accompanied by a detailed description of work to be performed. Minor details of construction regarding design and material, where not otherwise specified, are left to the discretion of the Bidder, and will be their sole responsibility. Bidder shall acknowledge receipt of all addendum with bid.

3. This is an engineer, design, construct and deliver type specification and is not the intention of this agency to write out vendors or manufacturers of similar or equal equipment of the types specified. It should be noted, however, that this specification is written around specific needs of this **agency**. With this intent to standardize certain components, there in numerous places we have named specific brands of components. This has been done to establish a certain standard of quality. Other brands will be accepted providing the vendor note in the bid that the particular brand meets or exceeds the quality of the actual brand that the specs call for.

4. It is the intent of these specifications to describe a beverage body type Hazardous Materials Response Vehicle, in sufficient detail to enable to secure bids on comparable equipment. The equipment shall **be** new, unused, the manufacturer's latest production and that which is furnished to Fire Departments in general.

5. Only manufacturers with an accomplished background in Fire Apparatus building shall be considered. Satisfactory evidence of his ability to construct fire apparatus, and the apparatus specified shall be stated. The location of the factory where the apparatus is manufactured shall also be identified. The manufacturer shall also state the number of years he has been building fire apparatus and similar vehicles. Factory location must be within the continental United States.

6. Contractors must construct the entire unit, less the chassis but including the body within their own premises. The contractor must own the rights to the respective extrusions used in the construction of the body. Bodies manufactured by other body companies will not be acceptable and be cause for rejection of the bid.

7. We are hereby stating, that while there may be manufacturers of beverage bodies, we are interested in fire apparatus manufacturers, craftsmanship, and knowledge in the construction of this unit.

8. The manufacturer shall furnish with his bid response a list of at least five (5) units which have been built by his company. This list shall include not only the latest deliveries, but some of the oldest, so as to determine the manufacturer's reliability and response to service.

9. The emergency vehicle, chassis, module body, equipment, devices, and electronic equipment to be delivered under this contract shall be standard specification. The unit shall comply with all Federal Motor Vehicle Safety Standards (FMVSS), and Federal regulation applicable or specified for the year of manufacturer. The chassis, components and optional items shall be represented in the manufacturer's current technical data. Materials used in the construction shall be new and not less than the quality conforming to current engineering and manufacturing practices. Materials shall be free from defects and suitable for service intended.

10. Organization or individuals submitting bids must represent directly the company that will be providing the labor and materials for the construction.

11. All work performed by the contractor shall be guaranteed by the successful bidder to be fabricated and assembled in a first-class workmanlike manner and of good quality material.

12. Bid prices should not include tax. We shall certify, tax exemption as required.

13. Late bids will not be considered and returned to the vendor unopened. Bids may not be withdrawn after the opening, and shall remain valid for a period of thirty (30) days thereafter. Negligence upon the part of the bidder in preparation of the proposal confers no right for the withdrawal of the bid after it has been opened. In submitting the proposal, the bidder agrees that acceptance of any or all bids within thirty (30) days of the opening, constitutes a contract.

14. The apparatus, plating, paint and all items furnished on the apparatus shall be guaranteed by the contractor for a period of one (1) year from acceptance. It shall be warranted against defective workmanship and materials at no cost to us. This covers all equipment except maintenance items such as tires, lamps, and filters.

15. Each bid shall be in strict compliance with our specifications and must be accompanied by detailed description of the apparatus and equipment which it is proposed to furnish.

16. The detailed specifications section of the specifications shall be adhered to completely and certified by an officer of the manufacturing company and not a sales representative. NO EXCEPTIONS.

17. All exceptions to the specifications shall be listed on a separate sheet headed "Exceptions to the Specifications". Bids taking total exceptions will be rejected.

18. The bidder shall be required to furnish certificates on insurance showing:

a) General Liability for:

Premises-operations
Product/Completes operation hazard
Contractual insurance
Broad from Property Damage
Independent Contractors
Personal Injury
Bodily Injury – each occurrence – $1,000,000.00
aggregate – $500,000.00
Property Damage – each occurrence – $1,000,000.00
aggregate – $200,000.00
Personal Injury – $1,000,000.00

b) Automobile Liability

Owned
Hired
Non-owned
Bodily injury and property damage combined $1,000,000.00

c) Excess Liability

Umbrella Form
Bodily Injury and property damage combined $1,000,000.00

d) Physical damage insurance on the truck in the amount of the bid.

e) Garage man's liability $300,000.00

19) Since delivery proposals by the bidders will weigh heavily in the determination of award of

bid, the delivery schedule that are submitted by the bidders and agreed upon by the purchaser shall automatically become binding upon the successful bidder. The bidder shall state the number of days required for delivery of the completed apparatus upon award of the bid. The bidder shall show proof of ordering chassis or having chassis in stock within two (2) weeks of award of bid. Delivery must not exceed nine (9) months from receipt of chassis; or from award of bid, if chassis is in stock.

20. The unit shall be complete with the operating accessories as specified herein. Modifications and attachments to accessories may be made as necessary to enable the vehicle to function reliably and efficiently in sustained operation. The design of the vehicle and the specified equipment shall permit accessibility for servicing, replacement and adjustment of components and systems. The term "heavy duty" as used to describe an item, shall mean in excess of the usual quantity, quality or capacity that is normally supplied with the standard product vehicle or component.

21. Payment terms must be included with the proposal.

22. A contract will not be awarded until we have satisfied ourselves that the successful bidder is familiar with this class of equipment, meets the previously described criteria, and has the necessary capital, facilities and tools to manufacture the same.

23. The bidder's attention is hereby directed to furnish information concerning his experience in the manufacturing of fire apparatus as to be manufactured in this instance.

24. Information which is incomplete, evasive, or of general nature shall be considered as grounds for rejection of the bid.

25. In making the award of this contract, we shall consider both the prices offered and the qualifications of the bidder, all as indicated within the proposal.

26. We reserve the right to waive minor informalities and reject any or all bids and/or to accept that proposal which, in our opinion, is deemed most advantageous from a standpoint of design, service and other special features and not necessarily bound to accept the low bid.

USEPA – ERT

HAZ-MAT EQUIPMENT TRUCK

This questionnaire must be filled out in detail, describing the type of apparatus that the bidder intends to furnish. This questionnaire will be considered a part of the bid. Failure to complete and return will be grounds for immediate rejection of the bid.

In addition to filling out this questionnaire form, each questionnaire shall be accompanied by drawings and diagrams of the vehicles proposed.

CHASSIS MAKE _____ YEAR _____

TYPE OF APPARATUS _____

1. Name of Bidder _____
2. Address _____
3. Location of Plant _____
4. Number of years engaged in rescue truck production? _____
5. List of agencies where completed stocks or repair parts are maintained:

_____ _____

_____ _____

_____ _____

6. Who manufactures the rescue body? _____
7. How is the rescue body attached to the chassis?

_____

_____

_____

8. Does your company offer a service of body transfer to another Chassis?

_____

9. List the warranty on the rescue body:

_____

10. List the warranty of the chassis:

_____

11. Are drawings enclosed depicting chassis, body, body dimensions, and detailed drawings of wall construction?

_____ YES _____ NO

12. Do all compartment dimensions meed or exceed specification requirements?

_____ YES _____ NO

13. Is the total cubic feet of compartment space included?

_____ YES _____ NO

14. Are drawings, pictures, and general information detailing the slide tray latching, and retractable cable/hose guides enclosed? Along with the customer list of existing users of same?

_____ YES _____ NO

15. Are at least 5 names and telephone numbers included listing bidder's customers who have

a similar PTO generator installation?

_____ YES _____ NO

SECTION 2

CHASSIS SPECIFICATIONS

Base Chassis:	International Model 4700 4 x 2 with 208" Wheel base 93" CA.	
Tow Hooks:	Front (2) frame mounted.	
Frame Rails:	High strength low alloy steel (50,000 PSI yield): 10.125" x 3.062" x 0.312".	
Bumper:	Front full width, Aerodynamic; Chrome-plated aluminum.	
Front Axle:	I beam type (International I-805) 8,000 lb. capacity.	
	Include:	* Spring pins 1 " diameter smooth pin with lubrication groove front. * Shock absorbers front * Spring, front (2) multileaf (flat leaf) shackle type; 9,000 lb. capacity.
Brake System:	Air dual system for straight truck application.	
	Include:	* Brake Chambers, spring (2) rear. * Gauge air pressure dual. * Dust shields, Front brake. * Dust shield, Rear brake. * Brake lines color coded nylon. * Slack adjusters, Front automatic.

* Slack adjusters, Rear automatic.
* Drain valve twist – type.
* Inversion valve and double check valve.

Front Brakes: Air Cam S - Cam 15.0" x 4.0"; Includes 16 square inch brake chamber.

Rear Brakes: Air Cam S - 16.5" x 7.0"; Includes 30 square inch MGM spring actuated parking brake chambers.

Air Dryer: Bendix AD-9 with heater, Standard location.

Air Compressor: Bendix TU – Flo 550 13.2 CFM

Steering Column: Tilting and telescoping.

Steering Gear: Ross Tas – 55 power.

Exhaust System: Single, Horizontal muffler and short tail pipe, aluminized steel; frame mounted right side.

Electrical System: 12 - volt, standard equipment.

Include:
* Turn signal flasher.
* Turn signal switch self-cancelling with integral hazard switch.
* Fuss, electrical SAE blade - type.
* Horn, electric single.
* Jump start stud.
* Parking light integral with front signal and rear tail light.
* Stop, Turn, Tail & B/U lights dual, rear, combination with reflector.
* Starter switch electric key operated.
* Turn signal, front flush mounted with reflectors and auxiliary side turn signals.
* Wiring chassis color coded and continuously numbered.
* Windshield wipers single motor, electric, cowl mounted.

Cigar Lighter: Cigar Lighter

Alternator: Leece – Neville 12 Volt 90 Amp. capacity.

Battery System: Maintenance-Free 12-Volt 2 Battery, 1100CCA Total.

Include: * Battery box steel; mounted left side, under cab

Radio: Panasonic CQ-2500 AM/FM Stereo, with weather band; with electronic tuning and clock with alarm, and CD/cassette player. Includes multiple dual-cone speakers.

Include: * Speakers (2) Dual-cone.

Windshield Wiper: Windshield wiper switch intermittent; for electric wipers.

Radio Filter: Noise suppression; required with International electronic engines.

Indicator: Low oil pressure / High coolant temperature, light and audible alarm; electronic controlled.

Headlights: Headlights long-life halogen; for two light system.

Work Lights: Pedestal mounted with switch on instrument panel and power distribution panel lights.

Circuit Breakers: Manual - reset (Main Panel) SAE type III with trip indicators, replace all fuses except instrument cluster feed.

Front End: Front-end tilting, Fiberglass

Grille: Grille Integral

Engine Diesel: International DT466E HEUI electronic 50 state 230 HP @ 2300 RPM, 660 lb. ft. torque @ 1450 RPM, 2300 RPM Governed speed.

Include:
* Starting motor 37MT.
* Gauge, Air Cleaner Restriction Air Cleaner Mounted.
* Air Cleaner with Vacuator, Remote Mounted.
* Engine shutdown electric, key operated.
* Engine oil drain plug magnetic.
* Oil filter, engine spin-on type.
* Oil sump 22 quart.
* Water filter engine mounted.
* Fuel filter (2) engine mounted.

Fan Driver: Schwitzer DD-30 Viscous

Governor:	Electronic road speed type; with 62 MPH default.
Block Heater:	120 Volt/1250 Watt (Phillips)
Exhaust Brake:	For International Engine (Jacobs)
Radiator:	Soldered, Down flow, Parallel system, 381 Square Inch area and 304 Square Inch charge air cooler.
	Include: * Anti-Freeze -20F (-29C) * Deaeration system with tank and sight glass. * Radiator hoses premium, rubber.
Cruise Control:	Cruise control electronic.
Throttle:	Hand control engine speed control for PTO; Electronic, stationary, variable speed; dash mounted.
Transmission:	Automatic Allison MD-3060P Close ratio, 6-speed; with PTO gear and less retarder, including option 12VVW engine control.
Rear Axle:	Single (Spicer J190-S) Single reduction 17,500 lb. capacity with 190 wheel ends. Gear ratio: 3.73
	Include: * Rear axle drain plug (1) magnetic. * Spring, rear steel, vari-rate; 20,000 lb. capacity.
Fuel/Water Separator:	Racor Model 21000 with heater, sight glass, 30 Micron filter and drain indicator light.
Fuel Tank:	Top drawer; rectangular, steel, 50 U.S. gal., 180 L capacity with center step; 15.0" tank depth, mounted right side under cab.
Cab:	Cab conventional steel; 2-man cab.
	Include: * Arm rest (4) molded plastic, charcoal; One each door. * Floor covering rubber, black. * Interior sheet metal painted, color based on the window ledge color of the exterior. * Console, overhead molded plastic with dual storage pockets and retainer nets and CB radio pocket with cover; pearl gray with black pockets.

* C.B. radio accommodation package.
* Coat hanger located in cab.
* Ash tray instrument panel mounted.
* Clearance/Marker lights (5) flush mounted.
* Grab handle, cab interior (4) front and rear of "B" pillar, two (2) each side.

Glass: All window tinted.

Color: Interior Pearl Gray.

Mirrors: Mirrors (2) RE-Trac 1157 rectangular, West Coast type, retractable, stainless steel; 16" x 7" size, 96" spacing with heating element.

Convex (2) stainless steel, 8" diameter, mounted below primary mirrors.

Gauge Cluster: English with English electronic speedometer and with tachometer for air brake chassis.

Include:
* Gauge, Engine oil pressure electronic.
* Gauge, Water temperature electronic
* Voltmeter

Gauge: Oil, Temp, Allison tran.

Hour Meter: Electronic; Mounted in cluster.

Seats: Driver (Bostrom Talladega 914) Air Suspension, high back (44.5'), vinyl, isolated with adjustable mechanical lumbar support, front cushion adjustment and folding back with storage pocket.

Include:
* Seat belt 3-point, lap and shoulder belt type.
* Flip down arm rests.

Passenger (Bostrom Talladega 914) Air Suspension, high back (44.5"), vinyl isolated with adjustable mechanical lumbar support, front cushion adjustment and folding back with storage pocket.

Include:
* Seat belt 3-point, lap and shoulder belt type.
* Flip down arm rests.

Air Conditioner: International blend - air with integral heater and defroster.

Include:
* Heater hose premium.
* Refrigerant hydroflourocarbon HFC -134A.\

Cab Interior Trim: Cab interior trim deluxe crew cab.

Include:
* Storage pocket, door molded plastic, charcoal, full length; driver door.
* "A" Pillar cover and "B" pillar cover; molded plastic, pearl gray on "A", painted metal, cab exterior color on "B".

Cab Interior Trim (con't)
* Headliner printed vinyl.
* Instrument panel trim molded plastic into the upper, black lower with cup holder molded into the upper area of the instrument panel cover.
* Dome light, cab rectangular above front seat with integral swiveling map light, front door activated.
* Sun visor (2) padded vinyl with toll ticket strap.
* Cab interior trim panels vinyl, half-height.
* Door trim panels vinyl with printed vinyl insert.
* Low washer fluid indicator.

Access: Cab driver and passenger sides.

Include:
* Grab handle, cab interior (1) "A" pillar mounted, passenger side.
* Step Two on each side.
* Grab handle (2) exterior, "B" pillar mounted, one (1) each side.

Wheels: Front disc; 22.5" painted steel, 10-stud (285.75mm BC) Hub piloted, flanged nut, metric mount, 8.25 DC rims; with steel hubs.

Rear disc; 22.5" painted steel, 10-stud (285.75mm BC) Hub piloted, flanged nut, metric mount, 8.25 DC rims; with steel hubs.

Include:
* Wheels seals, rear oil lubricated, includes wheel bearing.

Wheel seal front International oil lubricated wheel bearing.

Tires: Front (2) 255/70R22.5 Unisteel G159 (Goodyear) 568 rev/mile, load range H, 16 ply.

Rear (2) 255/70R22.5 Unisteel G124 (Goodyear) 564 rev/mile, load range H, 16 ply.

SECTION 3

CHASSIS AND CAB MODIFICATIONS

The following describes modifications to the standard chassis and cab:

1. The original steps into the truck shall be removed; new continuous running aluminum tread plate steps (minimum .190" thickness) shall be constructed on both sides.

2. The steps shall be of single step design and of a comfortable height for entering or leaving the cab. **(Sentence deleted)**

3. An automatic battery charger/conditioner shall be installed to maintain both chassis batteries.

4. A Kussmaul auto-eject with white protective cover shall be installed to supply the charger, it shall be located in the driver's step area.

5. Between the two front seats a console shall be constructed. It shall be built from .125" aluminum tread plate. It shall have a 3/4" raised edge around all 4 sides to keep books, pens, etc. from falling off. The recessed top shall be hinged to allow storage. The top left and right edges shall be padded so as to use as arm rests.

6. A 12 Volt lead shall be located in the console controlled by the master battery switch.

7. The bottom of the console shall be open to the rear while closed on the other 3 sides.

8. Provide and mount two (2) Grover emergency stutter tone horns to be mounted within the

hood, concealed behind the grille.

9. The horn shall be activated by dash-mounted push buttons. One shall be located on each side of the driving compartment dash board.

10. Full wheel stainless wheel covers shall be installed on all 4 wheels.

11. The chassis supplied fuel tank shall be removed and replaced with a recessed-type 50 gallon tank. It shall enable the new steps to be of continuous design as the left side of the chassis.

12. The factory-supplied altenator shall be replaced with a new 250 AMP Lestec Brand altenator.

13. The PTO Generator switch shall be located left of the steering wheel, and units with automatic chains shall have a switch right of the steering wheel on the dash.

SECTION 4

BODY CONSTRUCTION

1. The truck chassis shall be cut and dropped to accept the beverage type body. The work shall be performed only by highly experienced personnel in this field. The materials and workmanship for frame modifications shall be equal to or greater than the original frame strength of the chassis. Manufacturers proposing alternative frame alteration design will be considered, providing shop drawings are submitted for approval and original strength or greater is certified.

2. The frame conversion shall extend full length under rear bays with support at rear bumper. All frame modification shall be guaranteed. The original alignment of the axles, wheels, drive shaft, and other components must be guaranteed.

3. The actual frame main rails shall be 10" by 22 lb. structural channel. The channel shall be reinforced at the connection points with 1/4" steel formed plate.

4. The chassis existing cross members shall be reused in the reconstruction of the frame.

5. After the frame has been completed it shall be coated with black chassis undercoating.

6. The body's components shall be of the following aluminum alloys:

Structural Members:	6061-T6;	45,000 P. S. I.
Door Panels:	6063-T6;	35,000 P. S. I.
Body Panels:	Floors and partition covers;	
	5052	44,000 Lb. P. S. I.
Bulkhead Panels:	5052	44,000 Lb. Tensile Strength

7. The roof rails shall be of .1875" aluminum of 5052-H-34 alloy and shall be a continuous formed sheet to “square up” the top of the body to enhance looks and provide a flat mounting surface for lights. Radius type roof rails will not be acceptable.

8. The overall body construction and shelf supports shall be welded, NO RIVETS SHALL BE USED - NO EXCEPTIONS. The body shall have squared corners with no tapering.

9. The body corner and intermediate compartment dividers/door tracks shall be of heavy duty 6063-T6 alloy extruded aluminum.

10. The body corner and intermediate dividers shall incorporate the door tracks into this extrusion. Bolt-in channels NOT ACCEPTABLE.

11. The bulkheads shall be of .125" aluminum sheet welded to corner post and header; 5052 alloy.

12. The roof sheet shall be of 0.125" aluminum tread brite welded around perimeter; 3004-H14 alloy. The roof shall support a two hundred fifty (250) pound person at any location without damage to the roof.

13. Partitions shall be 0.125" aluminum sheet welded to inner framing; 3004-H38 alloy.

14. All floors shall be 0.125" smooth aluminum sheet with 3" x 0.170" channel extrusion reinforcements; 6061-T6 alloy, capable of supporting a five hundred (500) pound load. All floors are to be raised one (1) inch above the bottom of the door opening.

15. There shall be a 3" aluminum channel extrusion placed the full length of the drop frame.

16. This channel shall be welded to the bottom of the body. It shall be placed “Flanges Down”. This will enable it to straddle the 3" x 6" structural channel frame.

17. This body channel support shall be isolated with a 1/8" UHMW polyethylene type 819. The isolator shall lay the full length of both sides of frame rails.

18. The body rub rails shall be a heavy duty 6" x 3 1/4" aluminum channel extrusion 6063-T6. These channels shall be clad with 1/8" aluminum tread plate. The tread plate shall be installed with a special mono bolt fastening system. There shall be no welding of this plate.

19. All aluminum body parts are to be welded for unitized construction to give maximum strength throughout the body. The steel parts used in the drop frame modifications are also solid welded for additional strength.

20. The body mounting system shall feature cross members at the front panel and at each end

of wheel box for bolting directly to the steel frame, which straddles the steel drop frame rails. Mounting should be isolated from the steel frame by other synthetic material.

21. All bay floors shall have 3/4" drains in the corners. Floor drains are to be configured so as not to allow road spray to enter the compartments. There shall be minimal clearance between the cab body and box.

22. All door tracks shall have track, post, and track protectors extruded in an integral heavy duty section for added strength 6061-T6 alloy. The door track shall be an integral part of the body frame work. The door shall be sealed on all sides with black weather stripping. Doors shall be capable of being removed for servicing.

23. The doors shall be of the type that roll up on themselves. The door shall have an adjustable tubular type counter balance. Exceptions should be qualified in bid, and all bidders shall specify the manufacturer and model numbers of doors.

24. All doors shall be of heavy duty extruded aluminum sectionals; 6063-T6 alloy for finishing purposes.

25. The door slide system shall consist of a nylon slide with end shoes. They shall slide inside of the aluminum door track.

26. There shall be no door track liners installed, this will prevent any moisture build-up or electrolysis from dissimilar metal contact.

27. The doors shall have stainless steel insert type handle latchers for each door, with an independent latching mechanism. Alternative door latching may be considered, bidder shall specify with bid and provide details. All doors shall be equipped with indicator switches to alert the driver that one or more doors are not fully closed. These switches may all be connected to a single warning light on the dash of the cab.

28. The body shall be an six (6) bay body with rear compartment

29. The body bay widths shall be, starting at the cab, sixty-nine (69) inches, sixty (60) inches, and sixty (60) inches for each side. The rear door opening shall be forty-four (44) inches wide. The body height shall be eighty-nine (89) inches from bottom of the box to the top of the box. Door openings shall be no less than seventy-two (72) inches in height, over wheel bay no less than forty-eight (48) inches in height. The box shall be ninety-six (96) inches wide.

30. There shall be two (2) stainless steel wheel steps. They shall be removable, spring steel bar steps capable of supporting a minimum of four hundred (400) pounds. They shall not interfere with snow chains.

31. The rear bumper shall be impact resistant unitized steel trimmed out on top and sides with aluminum tread plate with isolators to prevent electrolysis between the steel and aluminum. The bumper shall extend approximately 8" from the body, it shall have the center inlaid with non-slip grip strut.

32. All compartments shall be of sweep-out type with no lip at bottom edge. The compartment floors shall be raised 1" above the lower sill to prevent water from entering the bottom of the opening. Each compartment shall be fitted with a drain and located in such a manner as to minimize or eliminate water from entering.

33. The entire body is to be modular in design, it shall be fully capable of being removed and remounted on another chassis.

34. All welds whether seen or not shall be of good craftsmanship, pleasing appearance. Welds which are visible shall be either ground smooth, cleaned or power wire brushed. We are stating that we want Fire Truck quality workmanship, not standard delivery practice.

SECTION 5

BAY CONFIGURATION

1. Shelf and slide-out tray construction – All bay shelves and slide-out trays specified shall be made according to the following requirements unless otherwise specified:

    * The heights of all shelves and trays shall be easily adjustable by using P-1000 aluminum/unistrut, welded permanently to the side bay walls, along with appropriate fasteners. The unistrut is to be continuous from the top to the bottom portion of the compartment.

    * All shelves and trays shall be capable of supporting a minimum weight of five hundred (500 pounds, even when fully extended.

    * All shelves and trays are to be of 3/16" smooth aluminum with press formed flanges of 2" on all four sides.

    * The front edge of all shelves and trays shall be held back 6" from the door opening to provide space for someone to stand on the bay floor and reach objects that are high in the compartment.

    * All slide trays shall be on roller mechanisms which will allow them to extend beyond compartment by ninety percent (90%) of their overall length. An automatic latching system shall be provided to hold the slide trays in their fully retracted and extended positions. The latching system shall be deactivated or unlatched by simply pulling or pushing the slide tray with approximately 20 lbs. of force. No other latches shall be required to operate the slides, NO EXCEPTIONS.

    * All shelves, slide-out trays, bins, and horizontal compartment surfaces shall be

covered with Mate flex plastic matting. All front edges to use finished chamfered edge pieces. All matting to be bolted in compartments with stainless steel fasteners. Matting in shelves or trays with lips are not required to be bolted in.

2. In each compartment that contains a reel on the side of the compartment closest to the reel, a retractable devise to guide the electric cord or hose, and protect it from rubbing on the exterior painted surface of the body is to be installed. A drawing or picture shall be supplied with bid.

3. The left front compartment (behind the cab) shall be 48 inches wide to include one (1) adjustable shelf and two (2) adjustable slide trays.

4. There shall be a full height dividing partition separating the left compartment from the right.

5. The right front compartment (behind the cab) shall be divided into two areas. The front area shall be approximately 24" wide and have two (2) adjustable full height vertical sliding tool boards. The boards shall operate on full stainless steel ball bearing slides. The slides shall be bolted to 3/16" by full height smooth aluminum sheet. The sheet shall be formed so as to create a full height handle for pulling out the tool boards. The boards shall be equipped with a quick release lock to prevent the slides from hitting the closed doors, and to hold the boards in the out position.

6. A full height, full depth, dividing partition shall be installed to divide the right front compartment. The rear or 24 inch shall be divided and have three (3) adjustable shelves.

7. The "Over the Wheel" compartment shall have brackets installed on the lower front wall to hold two (2) large compressed gas cylinders. This compartment shall also contain a slide board to hold 4 SCBA. The brackets shall be furnished along with face piece bags, all mounted to the same board.

8. Also in the "Over the Wheel" compartment on the right side shall be a 4 hole 30 minute SCBA bottle storage rack. The rack shall be built from aluminum and neoprene lined to prevent bottle damage. The entire rack shall be D.A. sanded for improved appearance.

9. Adjustable Unistrut shall also be installed in the "Over the Wheel" compartment. It shall run near full height and be placed 4 to a wall.

10. The rear of the body shall have a compartment build approximately 96" wide and 79" tall and 60" deep. A bench top laminar flowhood shall be installed with HEPA filtration rated @ 99.99% efficient @ 0.3 **microns**. Approximate flow should be 90 FPM:650CFM.

Nominal dimensions 24" x 48". Bypass piping should be plumbed to vent hood to outside air.

11. The rear body doors shall be constructed entirely from 3003H-14 smooth aluminum plate using a box pan configuration. The outer door plate shall be constructed from .1875" aluminum smooth plate and the inner pan shall be constructed from .125" aluminum smooth plate. They shall have a fixed glass tinted window installed in each door approximately 10 inches wide by 16 inches tall.

12. There shall be a .250" hole installed in the lower corner of the inside door pans for drainage. The doors shall have a closed cell neoprene rubber gasket installed around the perimeter of the door to carry off water.

13. Polished stainless steel bent D-ring style twist door latches shall be installed on the inner door pan. The bent D-ring shall allow easy opening of the compartment door, even with gloves on.

14. The doors shall be securely attached to the apparatus body with full length stainless steel piano type hinges. The door shall be mounted to the body using stainless steel nuts and bolts. Absolutely no self-tapping screws or pop rivets shall be acceptable on the doors, hinges or slam latch assemblies, No Exceptions.

15. Cleveland style door retainers shall be installed on both rear doors.

16. The entire rear compartment or “Room” shall be insulated with 2 inch foam type insulation.

17. A compartment shall be constructed into the front wall. It shall be 20" wide 48" tall by 20" deep. It shall have a roll-up door with lockable latch and be equipped with 2 adjustable shelves.

18. All compartment doors shall be key lockable. This shall include the roll-up and rear entry doors.

19. The rear compartment shall be equipped with two operating windows approximately 18 inches by 24 inches. The window units shall be equipped with screens and be located 1 each side.

20. The “Room” shall be equipped with a roof mounted low profile 110 Volt air conditioner. It shall be connected to the on-board generator. A hot water, forced air heater of

approximately 30,000 BTU, connected to the chassis cooling system. It shall be located on a side wall at the floor, towards the front.

21. Two 4 foot long flip down cushioned seats shall be installed on either side wall of the Room.

22. A hingeable flip up or down table shall be installed on the front wall. The table shall be constructed of 3/16 smooth aluminum.

23. Against the front wall of the "Room" 2 sets of removable eyebolt fasteners shall be installed. They shall be located to enable utilizing them for anchor points to secure a 55 gallon drum.

24. A removable ramp shall be provided to enable loading a drum into the rear "Room". Brackets shall be installed to secure the ramp under the rear of the truck.

25. Two non-slip handrails shall be installed, one on each rear swing door. They shall be installed on an angle.

SECTION 6

12 VOLT ELECTRICAL WIRING

1. All electrical work shall be performed by persons familiar with emergency vehicle systems.

2. All of the emergency electrical equipment shall be served by circuits separate and distinct from the vehicle chassis circuits. Body wiring shall be color coded, grease, oil, and moisture resistant, routed in protected locations, neatly and securely fastened, and all apertures properly grommeted for passing wiring. Solderless insulated connectors shall be provided where required.

3. The electrical system shall be completely controlled through a distribution center. The center shall incorporate automatic reset circuit breakers connected to relays to control each electrical circuit. Each circuit breaker and relay shall be sized to the load intended to be carried.

4. The switch control panel shall operate the relays and not carry the curit load. NO EXCEPTIONS.

5. The 12-Volt electrical syster shall be controlled through a switch panel located on the ceiling centered in the console, above the driver and as far forward in the cab as possible. The panel shall include switches arranged in the most convenient and practical manner that is possible.

6. The switch panel shall control individually all emergency warning light circuits, which shall also be controlled by warning master switch. The master switch shall be larger so as to distinguish it from the rest. The switch panel shall also control the compartment lights and the scene lights.

7. Terminal blocks shall be install wherever tie-in points are made. Blocks must be installed so weather cannot cause corrosion. All compartment wiring shall run in conduit, securely fastened. New lights shall be installed in all compartments.

8. All heave ampere carrying cables requiring terminals shall have the terminals both crimped and soldered for good electrical connections. These circuits shall include the starting charging and siren circuits.

9. A Cole Hersey Brand master battery disconnect switch shall be installed in a convenient location to the driver.
10. New stop/tail light, back-up lights, and marker lights shall be installed. The type used shall be Weldon brand 7" rectangular lights, Model 2000 and 2010 series respectfully.

11. A back-up alarm shall be installed and shall be activated when the unit is placed in reverse gear.

12. 5 inch diameter interior lights shall be installed in all locations where compartment lights are required, which shall be a minimum of three (3) per compartment. All lights shall be mounted in the body so that adjustable shelves can be easily moved without the moving of the lights, and provide adequate illumination. All compartment lights shall operate off one master switch located on cab panel.

13. All wiring shall be color coded and a schematic shall be supplied upon delivery of the truck. The diagram shall represent the exact wiring application, not a proposed system.

14. The distribution center, relays, strobe power packs and all other control devices shall be recessed into a compartment wall inside of the body.

15. All compartment side wall wiring shall be concealed behind double wall body construction. No surface wiring will be acceptable.

16. Body shall be equipped with all lighting as required by Federal Motor Vehicle Safety Standards.

The successful bidder shall supply and install the folllowing emergency warning equipment:

Lightbar: Whelen Edge 4400 series light bar, it shall have amber lenses.

Grille Lights: Weldon Model 3020 Halogen amber lights shall be mounted to the grille.

Body
Flashers: Whelen Model 97 series Halogen yellow flashing light with chrome flange. Six (6)

fixtures shall be mounted on body, two (2) on each side mounted at the top of the body, and two (2) on the rear of the body.

Scene Lights: Whelen Max Beam model 97 series, with chrome flange fixtures shall have a 26 degree downward tilt with halogen bulbs, mounted two (2) each on either side of the body. And two on the rear. The two (2) rear lights are to activate when the unit is placed in reverse.

Rear Light: Whelen Model #4000KKFH, 60" light bar, mounted on the upper portion of chassis body.

Intersection: Whelen Model MC-100HIR Halogen light shall be installed in the sides of the hood.

Switches: Lighted rocker switches shall be installed on the dash of the cab at the roof line, with appropriate legends installed and back lighted with the marker light circuit. She switches shall operate the following:

1) Master Emergency
2) Front Lightbar
3) Rear Lightbar
4) Body and Grille Flashers
5) Left Scene Lights
6) Right Scene Lights
7) Rear Scene Lights

Relays and Breakers: All electrical and emergency lighting equipment shall be supplied with automatic reset circuit breakers of appropriate amperage. All circuits shall be operated through a Bosch or equal continuous duty relay to remove all loads from the switches.

Air Horns: Two (2) Grover emergency Stutter Tone air horns shall be mounted recessed behind the grille and operated by electric dash switches on either side of the cab.

17. The rear head wall shall be equippped with two cigar lighter receptacles and a pair of thumb screw type 12 volt terminals.

18. All compartment doors shall be wired to a large flashing red warning light mounted on dash to alert the driver of an open body door.

19. Two Streamlite brand lite boxes shall be installed in the location directed by company officials.

SECTION 7

110 VOLT ELECTRICAL WIRING

1. A 25,000 watt, PTO operated generator shall be installed under the passenger compartment in such a way as to protect it from road dirt. It shall include an automatic engine governor control, to maintain engine speed during various loads applied to the generator. It shall utilize a "Hot Shift" or "Power clutch" PTO shifter. The PTO shall be wired in such a way that it will automatically disengage when the transmission is placed in gear.

2. A control panel shall be located on the dash and contain the following:

    * A single switch to engage the PTO. This shall be the only action necessary to receive power from the generator.

    * An indicator light to show that the PTO is engaged.

    * A voltmeter to verify proper operation. It shall be properly labeled as such.

    * A warning label stating "TRUCK MUST BE IN NEUTRAL BEFORE ENGAGING P.T.0."

    * A warning label stating "DISENGAGE P.T.O. BEFORE MOVING TRUCK."

3. A grounding stake shall be provided. It shall be designed much like a slap hammer to enable the stake to be driven into the hardest ground.

4. All 110-volt electrical circuits shall be wired through a circuit breaker box unless otherwise specified. Exact location of the break box shall be left up to the bidder but must be easily accessible and protected from the weather and physical damage.

5. A large full power receptacle and matching plug shall be provided to enable gaining full power from the generator. A main line breaker shall be provided.

6. Four (4) double duplex outlets shall be installed around the body, on each body corner post. Duplex outlets shall be installed in each fender wall and the rear room head wall and rear wall (2 each wall). The outlets shall be recessed in the body.

7. Install two (2) Extend-A-Lite Brand Model EXT-1500-PU on the corner of the body. Install two (2) Extend-A-Lite Model EXT-650-POD on the rear of the body. The rear lights shall be equipped with a locking mechanism to prevent theft.

8. The rear floodlights shall be mounted in such a way to allow them to be operated and extended while on the truck, and used as portable lights. The lights shall be located so as not to interfere with any other lights, doors, or handles.

9. Install aluminum tread plate on the body where the lights can hit and damage surface while being raised, lowered, or removed. All lights to have high temperature white finish.

10. Stainless steel edge protectors shall be installed as the 4 light locations where they may strike and chip the paint on the rain gutter around the body.

NOTE: Items 11 and 12 shall be bid as an option, not all units will receive reels.

11. There shall be two (2) 110 volt Hannay Model ECR-1616-17-18 reels supplied and installed. They shall be installed on the ceiling on both sides of the truck – one in the rear right side, one in the left rear side compartments.

12. The reels shall be supplied with 200' of 10/3 wire. The end of the cable shall have Daniel Woodhead Co. outlet boxes installed, they shall be Model 3005.

13. There shall be a water resistant 4 foot 110 volt fluorescent light fixture in the rear "Room".

14. Since the apparatus is equipped with a 120/240 volt electrical system, the wiring and associated equipment shall be tested.

15. The wiring and associated receptacles shall be subjected to a 1-min., 900-V dielectric voltage withstand test with any switches in the circuit (s) closed between live parts,

including neutral and the vehicle frame. This test shall be conducted after all body work has been completed.

16. Electrical polarity checks shall be made of permanently wired equipment and receptacles to determine that connections have been properly made.

17. An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

18. The results of the test required in 14 through 17 shall be recorded and provided to the purchaser at the time of delivery.

SECTION 8

PAINTING

1. All detachable parts from the cab and body shall be removed before painting.

2. All metal surfaces shall be thoroughly cleaned and prepared before paint is applied. Primer coats are applied as needed, and three (3) coats of finish paint shall be applied. Base coats shall be sprayed on. All irregularities in painted surfaces shall be rubbed down before the application of the finish coat.

3. The entire body shall be under-coated with coal tar epoxy, including the wheel wells.

4. Successful bidder shall supply touch-up paint with the delivered unit.

5. The unit's primary color shall be white.

6. There shall be a 4" wide, red Scotchlite stripe located no higher than 48" from the ground installed on the apparatus cab and body. The red stripe shall have a 1" blue Scotchlite stripe on either side of the red. The stripe shall cover a minimum of sixty percent (60%) of each side of the apparatus and forty percent (40%) of the front and rear of the apparatus. The EPA representative shall specify the exact location of the stripe.

7. USEPA shall furnish a design of decals to be furnished and applied by the contractor at company representative's direction.

8. The entire interior body is to be D/A sanded, including shelves and slide trays.